LESSON MAKER PRO

Center or Spread

Choose measures that match the data.

GRADE 6 · 6.NR.2.5

6.NR.2.5 "Relate the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered."

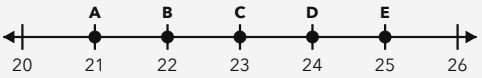
NAME _____ DATE _____

MATCH THE SHAPE

Use the mean and range when data are fairly even and have no outliers. Use the median and interquartile range, or IQR, when a value is far from the rest or the data are skewed.

WORKED EXAMPLE

The number line shows five quiz scores. Choose useful measures of center and variability. Find them.



1. The scores are 21, 22, 23, 24, and 25.
2. Mean = (21 + 22 + 23 + 24 + 25) / 5 = 115 / 5 = 23.
3. Median = 23. Range = 25 - 21 = 4.
4. No score is far from the others, so mean and range fit.

Answer: Mean = 23, median = 23, and range = 4. Use mean and range.

PRACTICE 4 problems

1 Data: 8, 9, 10, 11, 12. There are no unusual values. Find the mean and range.

ANSWER _____

2 Data: 1, 2, 2, 3, 4, 19. Choose a center and variability measure that are not pulled by 19. Find both values.

ANSWER _____

3 Data: 6, 7, 7, 8, 9. Which center, mean or median, is a good choice? Explain.

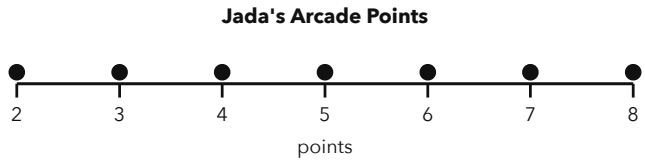
ANSWER _____

4 Data: 40, 41, 42, 43, 80. Choose a center and variability measure that are least affected by 80.

ANSWER _____

APPLY IT Show your work

1 Jada earned the points shown in each of seven arcade rounds. Choose a center and variability measure, then find both.



ANSWER _____

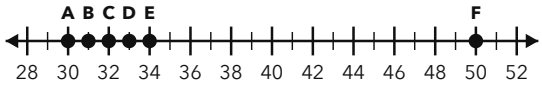
2 A music club recorded snack prices, in dollars: 1, 1, 2, 2, 2, 9. Which center and variability measures best describe a typical price? Find both.

WORK SPACE

ANSWER _____

CHALLENGE One step up

The number line shows six completion times, in minutes, for a game design challenge. Find the mean and median. Then choose a center and variability measure for a flyer describing a typical time. Explain.



WORK SPACE AND ANSWER

ANSWER KEY

Center or Spread

GRADE 6 · 6.NR.2.5

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Data: 8, 9, 10, 11, 12. There are no unusual values. Find the mean and range.	**Mean = 10; range = 4.**
2	Data: 1, 2, 2, 3, 4, 19. Choose a center and variability measure that are not pulled by 19. Find both values.	**Use median = 2.5 and IQR = 2.**
3	Data: 6, 7, 7, 8, 9. Which center, mean or median, is a good choice? Explain.	**Mean. The data have no outlier and are fairly even.**
4	Data: 40, 41, 42, 43, 80. Choose a center and variability measure that are least affected by 80.	**Use the median and IQR.**

PART 2 · APPLY IT

1. **Use mean = 5 and range = 6.** The plot is balanced with no outlier. Add the seven values to get 35, then divide by 7; subtract 2 from 8 for the range.
2. **Use median = 2 and IQR = 1.** The price 9 is an outlier, so use median and IQR. The lower-half median is 1 and the upper-half median is 2.

CHALLENGE

Mean = 35; median = 32.5. Use the median and IQR, with IQR = 3, because 50 is an outlier that pulls the mean and range up.

Accept equivalent wording that identifies the outlier and explains why median and IQR resist its effect. For IQR, use the medians of the lower and upper halves, excluding the overall median when there is an odd number of data values.